

NISTIR 88-4015

Directory of Organizations and Standards that Affect the Movement of Telecommunications Information for Ten Pacific Rim Countries

Terrance N. Troy, Editor

U.S. DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
(Formerly National Bureau of Standards)
Office of Standards Code and Information
Office of the Associate Director
for Industry and Standards
Gaithersburg, MD 20899

December 1988



National Bureau of Standards became the National Institute of Standards and Technology on August 23, 1988, when the Omnibus Trade and Competitiveness Act was signed. NIST retains all NBS functions. Its new programs will encourage improved use of technology by U.S. industry.

U.S. DEPARTMENT OF COMMERCE

C. William Verity, Secretary

NATIONAL INSTITUTE OF STANDARDS
AND TECHNOLOGY

Ernest Ambler, Director

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75 Years Stimulating America's Progress
1913-1988

ACKNOWLEDGEMENTS

This directory was compiled with the assistance and cooperation of foreign and domestic agencies and U.S. exporters. Special thanks to the governments and agencies of Australia, Hong Kong, Indonesia, Republic of Korea, New Zealand, Philippines, Singapore, and Taiwan. We also would like to thank our associates in the Federal Communications Commission, International Trade Administration, Computer and Communications Systems Laboratory, National Telecommunications and Information Administration, State Department and the Office of the United States Trade Representative.

Terrance N. Troy
Editor

ABSTRACT

Interest in international telecom dataflow systems and concern for the movement of telecom information is increasing. Multinational corporations are concerned with intra-corporate transborder data flow. Other firms seek to provide information to overseas customers. Some companies provide value-added services, and manufacturers are trying to sell their computers and communications equipment. Free trade depends on uninterrupted and unrestricted access to data and data services. Markets for telecom services and information products should be open to all on a fair and competitive basis. Restrictive national standards should be kept to a minimum. The Telecommunications Trade Act of 1988 states that rapid growth in the world telecommunications market is likely to continue for several decades. Consequently, Washington agencies are evaluating the markets of our trading partners to determine if they comply with the objectives in the legislation.

This directory contains information on foreign organizations and standards that affect the movement of telecommunications data for ten Pacific Rim countries -- Australia, Hong Kong, Indonesia, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Taiwan, and Thailand. The information includes: the name, address, phone, and fax numbers of each national organization having telecom responsibilities; the type of authority assigned to the organization; identification of the law or statute providing the authority; a description of the telecom data flow functions and activities; identification of the significant regulation or standards used; and information concerning standards-related responsibilities, such as licensing, testing, inspection, certification accreditation and registration.

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INTRODUCTION AND BACKGROUND

The Office of Standards Code and Information, National Institute of Standards and Technology (NIST), U.S. Department of Commerce, maintains a Technical Office to assist U.S. exporters in taking advantage of opportunities provided by the GATT Standards Code. The Technical Office has been particularly active in the telecommunications area, first with trade problems concerning telecom equipment and computer network systems and currently with value-added services and telecom information.

Manufacturers and others seeking to export telecom products and services want to know how to get started. They have many questions --

What are the important modem standards?

Will my firm have to establish a branch office?

Can I access the basic telecom network on reasonable and non-discriminatory terms and conditions?

Will the Post Telegraph and Telephone (PTT) administrations let me provide value-added services?

What do I do if my network needs special equipment?

How do I interconnect national markets?

What are the major barriers?

Whom do I contact for business customs and informal practices?

The Technical Office assists potential exporters by providing information on foreign regulations and standards, and certification requirements. It also helps exporters contact other trade and technical experts in the Department of Commerce and in other federal agencies, and to contact experts in foreign organizations, such as in the PTTs. Exporters often complain that foreign PTTs are immense bureaucracies; hence they don't know whom to ask or what questions to pose. Information specialists in foreign agencies usually speak some English, but often don't know answers to technical or regulatory questions.

The primary reason for compiling this directory is to provide information to assist U.S. exporters and potential exporters of telecom information services and equipment to the Pacific Rim countries. The Pacific Rim countries were selected because of the present and future opportunities for U.S. companies to provide telecom services and equipment to this expanding market.

A literature search was undertaken prior to designing a questionnaire to obtain background material for a directory of foreign national organizations and standards associated with the international flow of information over telecommunications and computer networks. It confirmed comments made by exporters that the telecom dataflow problem is complex. The regulations and

policies governing the international telecom dataflow system are an amalgamation of computer, communication and information technology standards and specifications. In addition, foreign computer and communication standards and specifications sometimes discriminate against U.S. telecom equipment. U.S. products must conform to local regulations before they can be marketed. Because free trade and competition exists in the United States for telecom products and services, many government and private sector officials feel that our exporters are entitled to reciprocal treatment.

Knowing that any request for information on all applicable policies, regulations and standards for communications, computers and information would not be favorably received by foreign organizations, the Technical Office limited its inquiry to the most significant areas. One important issue is understanding each other's definitions of telecom terms in each area so that we can lay the groundwork for exchanging information.

We expected that few countries would admit to having market barriers, and that some countries would not respond at all to an inquiry. (Past requests to several countries have never been answered, despite the fact that we have a government-to-government working relationship with those countries under the GATT Standards Code.)

It was decided that the information to be collected would include:

1. the organizations that regulate or set standards for telecommunications, computers, and information;
2. their specific authority, responsibilities and functions;
3. major policies, regulations, standards, test methods, and approval procedures; and
4. any known technical or non-tariff barriers to trade.

This directory presents information on the appropriate telecom organizations in ten Pacific Rim countries and their major rules and standards affecting the movement of telecom data across and within their borders, consequently having an impact on U.S. exporters of services and equipment. It is hoped that this directory will be a useful reference for exporters and will provide a model for U.S. Government trade policy makers and exporters to use in obtaining information and documentation of unfair policies in other countries.

DESCRIPTION OF TELECOM DATAFLOW SYSTEMS AND U.S. CONCERNS

Virtually any kind of service that can be delivered electronically can be traded. Information-service providers (e.g., remote access data processing firms and the international online database industry) offer information or information processing to customers for a fee. Value-added service providers, users of a telecom transport service as a medium (e.g., electronic mail, voice mail, code and protocol processing, management and operation of data networks) offer something for sale above and beyond the transport to potential customers.

Other telecom dataflow businesses depend on or use: information retrieval, data protection, software copyright, interactive exchange, file transfer, electronic funds transfer, and airline ticketing. The list of services could also include such unique forms of transborder data flow as prospecting for petroleum and minerals; the management of agricultural resources via satellite-acquired, remotely-sensed data; and computer crime.

The following information describes the telecom dataflow systems:

- o Markets may be closed due to monopoly conditions, and foreign governments or standards developers can affect the movement of data both within and across national boundaries. Problems may result from differences in national systems and discrepancies about what is and is not permitted.
- o National PTTs develop standards and specifications for products that are attached to public telecom networks, while national standards organizations develop computer standards and specifications for local networks. These and other organizations conduct licensing, testing, registration and certification programs that can block equipment needed for the telecom networks and services.
- o Transparency of, and open participation in, standards-setting processes for telecom products is non-existent in many countries. However, standards set by government decree have the force of law and must be adhered to by U.S. manufacturers and service providers. Establishing multinational intra-corporate networks can be especially difficult when locally installed system elements are limited to a foreign country's domestic equipment.
- o International standards for telecom dataflow are essentially voluntary, but they can be mandated by regulation or by the marketplace, especially recommendations from CCITT, even though CCITT has no direct enforcement powers. ISO's Open Systems Interconnect (OSI) standards for computer networks promote interconnectability and can be a major force in

creating a free and open market. CCITT and OSI standards, if overly restrictive, may constrain telecom dataflow for innovative Companies. National standards bodies will usually adopt OSI standards. National PTTs, on the other hand, administer CCITT sanctions, including withholding approvals required for the sale of a product or service.

U.S. firms are concerned that foreign PTTs with jurisdiction over telecom issues might unnecessarily regulate computers or information services as the telecom transport system has been regulated. U.S. firms can be severely affected by restrictive information policies or denial of access to the basic telecom network on reasonable and nondiscriminatory terms.

Communications specifications and protocols, computer interface standards, and information policies are adding complexity to the telecommunications regulatory system; and may result in conditions which are unfair to U.S. firms. For example U.S. firms are concerned that proposals to monitor, value and tax information flows or data transfers; or to place content restrictions or limitations on value-added services might be instituted. Multinational corporations, the largest users of transborder flows, depend on international information flows for internal functions: data processing, customer service, financial management, etc. They sometimes fear that foreign firms and quasi-government organizations may create requirements for local duplication, processing, or storage of data.

Often these firms do not understand the requirements of each country concerning transborder dataflow. For example, companies do not know which activities are regulated solely by the transmission network provider or standardized voluntarily by the adoption of international standards. It is not always clear which agency is responsible for what area, e.g., data communications software and protocols. Complications result from combining unregulated computers with regulated communication systems and equipment and the interest in creating national information policies.

Some Pacific Rim countries may see U.S. exporters as intruders into their protected foreign telecom markets and a threat to their service monopolies. In addition to attempts to protect domestic information, computer, or communications industries, they may include national desires to: protect individual privacy, safeguard data critical to public health and safety, and maintain national sovereignty and security. Nevertheless, some telecom trade officials believe that U.S. firms should have reciprocal rights with Pacific Rim countries.

THE TELECOMMUNICATIONS TRADE ACT OF 1988

The Telecommunications Trade Act of 1988 states that rapid growth in the world market for telecommunications products and services is likely to continue for several decades. The U.S. Government plans to undertake a program to achieve an open world market for trade in telecom products and services. Washington agencies are in the process of evaluating our trading partners against the market access objectives spelled out in the legislation. Users of this directory can help identify barriers imposed by Pacific Rim countries and extensive government intervention (including restrictive import practices or discriminatory procurement practices) which adversely affect United States exports of telecom products and services.

Twelve U.S. objectives under the Telecom Trade Act regarding telecom products and services are to obtain:

- (1) National Treatment for telecom products and services provided by U.S. firms;
- (2) Most-Favored Nation Treatment for such products and services;
- (3) nondiscriminatory procurement policies, including the procurement by sale or lease by government-owned or controlled entities;
- (4) reduction or elimination of customs duties on telecom products;
- (5) elimination of subsidies, violations of intellectual property rights, and other unfair trade practices that distort international trade;
- (6) elimination of investment barriers that restrict the establishment of foreign owned business entities which market telecom products and services;
- (7) assurances that any requirement for the registration of customer premise equipment for attachment to a telecom network and the marketing of a product be limited to certification by the manufacturer that the equipment meets established standards for preventing harm to the network or network personnel;
- (8) transparency of, and open participation in, the standards-setting processes used with respect to telecom products;

(9) the ability to have telecom products, located on customer premises, approved and registered by type, and, if appropriate, establishment of procedures for the mutual recognition of type approvals;

(10) access to the basic telecom network on reasonable and nondiscriminatory terms and conditions for value-added services;

(11) nondiscriminatory procurement of telecom products and services by foreign entities that provide local exchange telecom services which are owned, controlled, or regulated by the foreign government; and

(12) monitoring and effective dispute settlement mechanisms to facilitate compliance with matters referred to in the preceding paragraphs.

U.S. exporters may seek government assistance from the DOC Technical Office if they encounter any difficulties that suggest that a market is closed as defined in the Telecom Trade Act. (See address and phone information under Directory Changes on page 8.) In particular, U.S. firms should note the nature and significance of each foreign organization's regulations and standards (including any acts, policies, or practices) that deny advantageous market opportunities to U.S. telecom products and services.

RECOMMENDATIONS

U.S. government officials and private sector manufacturers, service providers, and other exporters should consider the following courses of action:

- International standards for telecom dataflow should be developed and supported by U.S. manufacturers, service suppliers and customers with foreign offices, and based on preventing harm to the network or network personnel.
- Requirements for the registration of customer premise equipment to be attached to a telecom network and the marketing of related products should be limited to a manufacturer's certification that the equipment meets established standards.
- U.S. exporters should encourage foreign agencies to commit to unhindered dataflow, to support customer free choice for the best telecom services and products that meet international standards, and to support open information policies.
- U.S. firms may wish to insist that government purchases of telecom products be fair, whether or not such purchases are included within the scope of the GATT. Monopolies should not be allowed to delay implementation of new technology or forms of transmission (voice, data, text or image), or hinder new business opportunities and improved business effectiveness.
- U.S. firms should seek U.S. government assistance in their efforts to ensure that telecom transmission services and value-added services are available worldwide (including the use of needed or useful equipment or software).
- U.S. exporters should identify for the Technical Office, restrictive foreign national regulations and standards.

METHODOLOGY, FORMAT AND DIRECTORY CHANGES

All relevant organizations in each selected Pacific Rim country were mailed a questionnaire. The questionnaire encouraged agencies to provide major policies, rules, regulations, test methods, and specifications. Clerical staff in those countries interpreted the questions, and some interpretations were not compatible with the U.S. viewpoint.

Country sheets were developed from collected information, augmented by information from U.S. government files. The country survey sheets were then sent to each organization for verification and provision of any additional information.

The entries in this directory are listed by country and organization. Each entry includes a flexible set of sections depending on the type and amount of data provided by each organization or made available by U.S. firms. A complete set of 'sections' is listed in Appendix I.

For future updates and changes to the Directory, U.S. exporters and agents of foreign organizations are encouraged to notify NIST of any additions or changes to any of the data for the Pacific Rim countries. Such information should be sent to:

DOC Technical Office
National Institute of Standards and Technology
Administration Building, Room A629
Gaithersburg, MD 20899

Comments may be made by phone: 301 975-4039.

Additional NIST documents of possible interest are described in Appendix II.

COUNTRY: Australia

ORGANIZATIONAL NAME Standards Association of Australia
AND ACRONYM: (SAA)

ADDRESS: 80 Arthur Street
North Sydney, NSW 2060
Australia

TELEPHONE NUMBER: 02 963-4111

TELEX: 26514

CABLE: AUSTANDARD

FAX: 02 959-3896

TELECOM DATAFLOW AUTHORITY: See Australian Telecommunications Commission.

LAW/STATUTE AND DATE OF AUTHORITY: See Australian Telecommunications Commission.

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Publishing and promoting standards for data communications and computer interconnection.

AFFECTED INDUSTRIES PRODUCTS OR SERVICES: All organizations involved in Telecom Dataflow.

DEVELOP/WRITE REGULATIONS OR STANDARDS: Writes standards which may be incorporated in regulations.

MAJOR STANDARDS USED: Most SAA standards (using 'AS' designation numbers) are adoptions of ISO or IEC standards. The GATT Technical Office will provide a list of ISO/AS or IEC/AS equivalent standards on request.

REGISTRATION: SAA is the national body responsible for the coordination of the issue of identifier numbers for transaction identification cards. SAA is the first contact point for Australian companies wishing to have issued to them numbers for credit cards, etc. The issue of a number normally takes not more than two weeks. A small charge is made for this function.

INTERNATIONAL ORGANIZATIONS: International Organization for Standardization, International Electrotechnical Commission. SAA maintains close liaison with Australian Government officials who are members of ITU/CCITT. (Australia is not a signatory to the GATT Standards Code.)

ASSISTANCE TO IMPORTER AND EXPORTERS: Limited assistance is provided through information centers, identifying published national standards of individual countries.

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS: Australian subsidiaries of U.S. companies are permitted to provide useful input.

DETAILS OR COMMENTS: SAA believes that difficulties may arise because Australia uses international standards and U.S. firms inappropriately use American National Standards for export products.

COUNTRY: Australia

ORGANIZATIONAL NAME The Australian Telecommunications Commission
AND ACRONYM: (Telecom Australia)

ADDRESS: 199 William Street
Melbourne, Victoria 3000
Australia

TELEPHONE NUMBER: 03 606-6385

TELEX: AA152152

FAX: 03 670-3388

TELECOM DATAFLOW AUTHORITY: Telecom Australia operates the domestic telecom network and is required to plan, establish, and operate telecommunications services within Australia so as to best meet the social, industrial and commercial needs of the Australian people. It is required to provide these services on a universal, affordable basis. Other persons or organizations may not provide or operate such services without the authority of Telecom Australia. Telecom and AUSSAT (satellite system) together form the Australian National Network.

LAW/STATUTE AND DATE OF AUTHORITY: Telecommunications Act of 1975, as amended.

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: To provide and operate a variety of data services including the provision of data private lines (data quality leased circuits) and to authorize the supply of equipment for attachment to such lines and services.

AFFECTED INDUSTRIES All
PRODUCTS OR SERVICES:

DEVELOP/WRITE REGULATIONS OR STANDARDS: Telecom Australia writes regulations and standards, including General Telecommunications By-laws and many networking specifications. Also writes policy for interconnection of private networks to telecom public switched networks and policy for value added services.

MAJOR REGULATIONS USED: Australian Telecommunications (General) By-laws. Telecom Australia Policy on Interconnection of Private Networks to Telecom Public Switched Networks. Telecom Australia Policy on Value Added Services. (Current government procurement policy gives domestic industry a 28 percent discount over foreign bids.)

MAJOR STANDARDS USED: 1050 -- General Requirements for Attached Equipment.
1053 -- Requirements for Attachment to the Switched Telephone Network.
1054 -- Requirements for Attachment to Private Lines.
1301 -- PABX Listing Requirements.
1302 -- Electrical Safety.
1364 -- Line Isolation Units.

LICENSING: No

TESTING: Yes (see certification below)

INSPECTION: Yes

CERTIFICATION: Testing and authorization (certification) of network attachments takes an average of 12 weeks; typical costs for individual authorizations is \$700 (Australian).

Self-certification schemes established for manufacturers of data terminal and other direct connect equipment. Approval of private network interconnection with the public network is required.

ACCREDITATION: Yes

REGISTRATION: Registration of value added service providers.

INTERNATIONAL ORGANIZATIONS: ITU/CCITT and IEC.

REGIONAL ORGANIZATIONS: None

ASSISTANCE TO IMPORTER AND EXPORTERS: Telecom operates program of industry liaison and assistance as well as making R & D grants available to assist importers and exporters.

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS:	Not directly, but Australian standards are increasingly being based on international standards such as IEC to which U.S. firms have similar access.
DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY:	As the Australian network operates on CCITT recommended standards, the only difficulty North American firms would have would be in the compatibility of products using standards other than those of CCITT. However, if such devices were submitted for authorization in Australia for use on point to point services, authorization would likely to be granted.
DETAILS OR COMMENTS:	Purchase restrictions on a wide variety of telecom services to be used for intra-corporate purposes obstructs the establishment of fully-integrated, multinational corporate information networks in a manner which is most effective and cost-efficient.
DIFFICULTIES NOTED BY U.S. FIRMS:	Competitive entry is not assured for certain new telecom network-based services that might become part of the PTT monopoly. Leased circuit sharing and leased circuit resale are not permitted in all cases or are only permitted on a trade restricted basis; this constitutes a restriction on access to or use of public telecom services related to the provision of telecom network-based services. Telecom Australia restricts the resale and shared use of public telecom services (leased circuits are not provided). Interconnection at the national level between the public-switched telecom network and privately-owned networks is not permitted. Telecom also specifies local content percentage targets (thresholds) for Australian preference arrangements, both in telecom contracts and for private supply. Some Telecom standards are designed solely for the Australian market.

COUNTRY: Australia

ORGANIZATIONAL NAME Overseas Telecommunications Commission
AND ACRONYM: (OTC)

ADDRESS: 231 Elizabeth Street
Sydney, NSW 2000
Australia

TELEPHONE NUMBER: 61 2 287 5000

TELEX: AA120591

FAX: 61 2 287 5103

TELECOM DATAFLOW AUTHORITY: OTC is a statutory authority responsible for the provision of telecommunications services between Australia and other countries, with Australia's external territories, and with ships at sea. OTC has an effective monopoly for these services.

LAW/STATUTE AND DATE OF AUTHORITY: Overseas Telecommunications Act, 1946 (Commonwealth)

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Provision of international telecommunications comprising: data, text, telephone, video, maritime, and private network services.

AFFECTED INDUSTRIES All sectors of the economy.
PRODUCTS OR SERVICES:

DEVELOP/WRITE REGULATIONS OR STANDARDS: No

INTERNATIONAL ORGANIZATIONS: ITU/CCITT, ISO, IEEE, IEC

ASSISTANCE TO IMPORTER AND EXPORTERS: No

DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY: OTC has not had any complaints.

COUNTRY: Australia

ORGANIZATIONAL NAME Australian Postal Commission
AND ACRONYM: (Australia Post)

ADDRESS: PO Box 302
Carlton South
Victoria 3053
Australia

TELEPHONE NUMBER: 61 3 669 7171

TELEX: AA 34096

FAX: 61 3 663 5250

TELECOM DATAFLOW AUTHORITY: To transmit and receive electronic mail (e.g., FAX, Text Message) on behalf of customers.

LAW/STATUTE AND DATE OF AUTHORITY: Postal Services Act 1975

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: FAXPOST (formerly INTELPOST): public facsimile service, domestic and international.

IMAGEGRAM: public facsimile greeting/message service, domestic and international.

LETTERGRAM: text message service, domestic and international.

AFFECTED INDUSTRIES Facsimile, text message
PRODUCTS OR SERVICES:

DEVELOP/WRITE
REGULATIONS OR
STANDARDS:

No

INTERNATIONAL
ORGANIZATIONS:

Universal Postal Union

Paris Group (an international liaison group seeking to develop uniform practices in electronic postal services)

ASSISTANCE TO
IMPORTER AND
EXPORTERS:

Australia Post provides services only, no specific help otherwise,

DIFFICULTIES IN
MOVING DATA INTO,
OUT OF, OR WITHIN
COUNTRY:

Australia Post has received no complaints.

COUNTRY: Hong Kong

ORGANIZATIONAL NAME Hong Kong Post Office
AND ACRONYM: (HKPO)

ADDRESS: 173, Des Voeux Road Central
51F, Singer Building
Hong Kong

TELEPHONE NUMBER: 5-8529600

TELEX: 65958

FAX: 852-5-419058

PARENT
ORGANIZATION: Hong Kong Government

TELECOM DATAFLOW AUTHORITY: The establishment and operation of telecom services.

LAW/STATUTE AND DATE OF AUTHORITY: Telecommunications Ordinance, CAP.106 - 1982 Edition

Telephone Ordinance, CAP.269 - 1985 Edition

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: All telecom networks and services are licensed under the telecommunications ordinance and the telephone ordinance. Terminal equipment can be provided competitively. Content of messages is not controlled.

DEVELOP/WRITE REGULATIONS OR STANDARDS: Yes

MAJOR STANDARDS USED: Type Approval Standards for Telecommunication Terminal Equipment

LICENSING: Yes

TESTING: Type approval requests are normally processed within one month and charged accordingly to a published schedule.

CERTIFICATION: Yes

INTERNATIONAL ORGANIZATIONS: GATT, ISO

ASSISTANCE TO IMPORTER AND EXPORTERS: None

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS: Participation is closed except that multinationals can be consulted through the HK Telecom Users Group. Normally, the HK Telecom Association, which represents the importer/exporter, and the HK Telecom Users Group are consulted before regulations/standards are formulated.

.....

COUNTRY: Hong Kong

ORGANIZATIONAL NAME AND ACRONYM: Hong Kong Telephone Company, Ltd.
(HKTC)

ADDRESS: P.O. Box 479
General Post Office
Hong Kong

TELEPHONE NUMBER: 28 81 11

TELEX: 83338 telco hx

PARENT ORGANIZATION: Hong Kong Telecom

TELECOM DATAFLOW AUTHORITY: Domestic Operations. All equipment attached to private lines or switched networks must have permission to connect from HKTC.

LAW/STATUTE AND DATE OF AUTHORITY: Telephone and Telecom Ordinances

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Operates switched telephone and data networks.

AFFECTED INDUSTRIES PRODUCTS OR SERVICES: Terminals and VANS

TESTING: Test, inspect and certify that equipment is permitted for connection to the network.

INSPECTION: Yes

CERTIFICATION: Yes

INTERNATIONAL ORGANIZATIONS: CCITT (Adopt CCITT standards)

COUNTRY: Hong Kong

ORGANIZATIONAL NAME Cable and Wireless (HK) Ltd.
AND ACRONYM: (CWHK)

ADDRESS: New Mercury House
22 Fenwick Street
Wanchai, Hong Kong

TELEPHONE NUMBER: 5-8621111

TELEX: 73240 CWADM

CABLE: CABLEWIRE

FAX: 5-8654501

PARENT ORGANIZATION: Hong Kong Telecommunications (group of companies subsidiary to) Cable & Wireless plc of the U.K.

TELECOM DATAFLOW AUTHORITY: CWHK holds the exclusive license for the provision of public international telecommunications services to and from Hong Kong. CWHK is a CCITT Recognized Private Operating Agency and the authorized Intelsat signatory for Hong Kong.

LAW/STATUTE AND DATE OF AUTHORITY: The Telecommunications Ordinance of Hong Kong

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Common Carrier

DEVELOP/WRITE REGULATIONS OR STANDARDS: No

MAJOR REGULATIONS USED: The Hong Kong Telecommunications Ordinance, Intelsat, and CCITT recommendations.

MAJOR STANDARDS USED: Intelsat and CCITT recommendations.

LICENSING: No

TESTING: Operates the type approval testing for terminal equipment to be connected to their circuits and networks.

INSPECTION: Yes

CERTIFICATION: Operates the process for certification of terminal equipment to be connected to their circuits and networks.

ACCREDITATION: No

REGISTRATION: No

INTERNATIONAL ORGANIZATIONS: CCITT, Intelsat

ASSISTANCE TO IMPORTER AND EXPORTERS: No

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS: The development of regulations/standards is a Hong Kong Government matter. U.S. residents and representatives may submit their views along with all other interested Parties.

DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY: CWHK does not believe that foreign firms have complained of difficulties in moving data. However, there are regulatory constraints on the carriage of third party traffic and shared use of private lines.

DETAILS OR COMMENTS: Type Approval testing and certification activities for terminal equipment are being transferred to Government laboratories.

.....

COUNTRY: Hong Kong

ORGANIZATIONAL NAME Hong Kong Standards and Testing Center
AND ACRONYM: (STC)

ADDRESS: Dai Wang Street
Taipo Industrial Estate
Taipo, N.T.,
Hong Kong

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: National standardizing body for computer standards and approvals for computer and communications equipment.

TESTING: Yes

INTERNATIONAL ORGANIZATIONS: ISO

COUNTRY: Indonesia

ORGANIZATIONAL NAME Standardization Council of Indonesia
AND ACRONYM: (DSN)

ADDRESS: Gedung PDII - LIPI, JL
Gatot Subroto 10
Jakarta 12190

TELEPHONE NUMBER: 583465

TELEX: 45875 PDIN IA

PARENT ORGANIZATION: (Reports directly to the President)

TELECOM DATAFLOW AUTHORITY: Presidential Decree (1984)

DEVELOP/WRITE REGULATIONS OR STANDARDS: Standards formulation for computers and OSI networks.

TESTING: Yes

CERTIFICATION: Yes

ACCREDITATION: Accredits private certification organizations and other standard formulation institutions.

REGISTRATION: Quality assessment schemes

INTERNATIONAL ORGANIZATIONS: ISO, IEC

.....

COUNTRY: Indonesia

ORGANIZATIONAL NAME Kepala Direktorat Telekomunikasi
AND ACRONYM: (KDT)

ADDRESS: Jalan Kebon Sirin 37
Jakarta Pusat

TELEPHONE NUMBER: 34 60 00

TELEX: 44407 postel ia

CABLE: gentel jakarta

TELECOM DATAFLOW AUTHORITY: Administration of telecommunications operations

COUNTRY: Indonesia

ORGANIZATIONAL NAME Perusahaan Umum Telekomunikasi
AND ACRONYM: (Perumtel)

ADDRESS: Jalan Cisanggarung 2
Bandung

TELEPHONE NUMBER: 5 91 00

TELEX: 28220 diruttel bd

CABLE: diruttel bandung

TELECOM DATAFLOW Domestic operations
AUTHORITY:

.....

COUNTRY: Indonesia

ORGANIZATIONAL NAME PT (Persero) INDOSAT
AND ACRONYM: (INDOSAT)

ADDRESS: JL. Merdeka Barat No. 21
Jakarta 10110

TELEPHONE NUMBER: 346984 - 87, 363346

TELEX: 44383, 46134

FAX: 358155

PARENT Indosat is a government/state owned company.
ORGANIZATION:

TELECOM DATAFLOW International telecommunications services
AUTHORITY:

TELECOM DATAFLOW FUNCTIONS AND Operates Intelsat's earth stations and marine
ACTIVITIES: cable.

INTERNATIONAL CCITT, CCIR
ORGANIZATIONS:

COUNTRY: Republic of Korea

ORGANIZATIONAL NAME Telecommunications Policy Bureau
AND ACRONYM: (TPB)

ADDRESS: 154-1 Seoulin-dong, Chongro-ku
Seoul 110
Republic of Korea

TELEPHONE NUMBER: 720 39 79

TELEX: 23698 gentel k23698

CABLE: gentel seoul

PARENT ORGANIZATION: Ministry of Communications
MOC

TELECOM DATAFLOW AUTHORITY: Overall regulatory and administrative responsibility for national communications network.

LAW/STATUTE AND DATE OF AUTHORITY: National Computer Network Law, 1986
The Public Telecommunications Industry Law - September 1976, as amended April 1985
The Telecommunications Organic Law - December 1983

AFFECTED INDUSTRIES Carriers and computer networks.

PRODUCTS OR SERVICES: Car and phone paging services under authority of the Korean Mobile Telecommunications Corporation.

DEVELOP/WRITE REGULATIONS OR STANDARDS: Draft regulations for the interconnection of national computer networks, telecommunications carriers and private networks.

MAJOR STANDARDS USED: Standards for interoperability and quality assurance

TESTING: MOC will only accept test data generated by KTA, will not accept data from U.S. laboratories or from U.S. manufacturers.

INSPECTION: Lot approvals are required for some telecom products.

REGISTRATION:	Registration requirement for devices to be attached to public networks extends beyond "no harm to the network or network personnel" guidelines.
INTERNATIONAL ORGANIZATIONS:	GATT, Intelsat, ITU
PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS:	New or changed standards that "will significantly distort trade" will be notified through the GATT, providing an opportunity for U.S. firms and others to make comments.
DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY:	Mandatory standards for computer networks go far beyond international standards and include such things as reliability and quality.
	Firms participating in government telecom services may have to allow Korean Government access to proprietary information on management, facilities design, and software.
	Because of restrictions on the use of public telecom services for intra-corporate purposes, U.S. firms seeking to tie their Korean operations into their multinational networks or seeking to establish internal networks are severely restricted.
DETAILS OR COMMENTS:	Interconnection standards scheduled for December 1988.
DIFFICULTIES NOTED BY U.S. FIRMS:	Although progress has been made in easing equipment approval procedures, CPE attachment prohibitions are restrictive. Only Korean companies may provide value added network services (U.S. firms may form joint ventures but are limited by a fifty percent foreign equity participation rule).

COUNTRY: Republic of Korea

ORGANIZATIONAL NAME Korean Telecommunications Authority
AND ACRONYM: (KTA)

ADDRESS: 21-1 Chungomu-ro 1-Ka Chung-Ku
Seoul 100
Republic of Korea

TELEPHONE NUMBER: 754 11 51

TELEX: 23418 kotelco k23418

TELECOM DATAFLOW AUTHORITY: Manages national communications network.
Data communications facilities (leased lines, packet-switched data network) are operated and maintained by the Data Communications Authority.

LAW/STATUTE AND DATE OF AUTHORITY: Telecommunications Organic Act, December 1983

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Monopoly carrier of basic telephony services.

AFFECTED INDUSTRIES PRODUCTS OR SERVICES: Purchases telecommunications equipment for public use. The Electronic Industry Association of Korea must certify that an imported product is not manufactured or capable of being manufactured in Korea.

DEVELOP/WRITE REGULATIONS OR STANDARDS: Sets standards for KTA use only (no public standards).

TESTING: Testing (and Inspection) performed at KTA Testing and Inspection Office (KTAIO)

INSPECTION: See above

CERTIFICATION: Even though products (such as modems, PBXs, and key phones) have been certified, they still are required to be inspected before attachment to the public network.

PARTICIPATION IN
DEVELOPMENT
ACTIVITIES OPEN TO
FOREIGN FIRMS:

There is no opportunity for U.S. firms to provide input in development activities and U.S. firms are particularly interested in participation for interconnection standards with private networks (see below).

DETAILS OR
COMMENTS:

A National Computerization Agency, established in 1986, will be granted the authority to set technical standards for interconnection between private and public networks.

DIFFICULTIES NOTED
BY U.S. FIRMS:

Restrictions on purchase of a wide variety of telecom services prevent ready establishment of fully-integrated, multinational corporate information networks in an effective and cost-efficient manner.

The Korean Government has not fully defined the boundaries of the monopoly provision of basic telecom services and severely restricts market access by U.S. telecommunications network-based service providers.

There are restrictions on resale of public telecom services. Leased circuit resale is not permitted in all cases (i.e. to closed user groups) or is only permitted on a trade-restricted basis.

COUNTRY: Republic of Korea

ORGANIZATIONAL NAME Korean Bureau of Standards
AND ACRONYM: (KBS)

ADDRESS: 2, Chung - dong
Kwachon - city
Kyonggi-do 427-010
Republic of Korea

TELEPHONE NUMBER: 82 (2) 503 7928

TELEX: 28456K

FAX: 82 (2) 503 7941

PARENT
ORGANIZATION: Industrial Advancement Administration (IAA).
Ministry of Commerce and Industry

LAW/STATUTE AND
DATE OF AUTHORITY: Industrial Standardization Act - September
1961

TELECOM DATAFLOW
FUNCTIONS AND
ACTIVITIES: IAA establishes Korean Industrial Standards
and operates KS marking system for private
testing and certification laboratories who
have been given authorized permission to use
KS Mark.

AFFECTED INDUSTRIES Information Processing
PRODUCTS OR
SERVICES:

DEVELOP/WRITE
REGULATIONS OR
STANDARDS: Yes

MAJOR STANDARDS
USED: KSC 5601 Code for information interchange
KSC 5635 Programming language minimal Basic
KSC 5715 Keyboard layout for information
processing.

TESTING: Yes

CERTIFICATION: Costs for certification, including testing,
is \$1,000; time one month.

INTERNATIONAL
ORGANIZATIONS: ISO, IEC

REGIONAL PASC
ORGANIZATIONS:

ASSISTANCE TO No
IMPORTER AND
EXPORTERS:

PARTICIPATION IN Yes
DEVELOPMENT
ACTIVITIES OPEN TO
FOREIGN FIRMS:

DIFFICULTIES IN No foreign firms have complained to IAA.
MOVING DATA INTO,
OUT OF, OR WITHIN
COUNTRY:

COUNTRY: Malaysia

ORGANIZATIONAL NAME Standards and Industrial Institute of
AND ACRONYM: Malaysia (SIIM)

ADDRESS: Lot 10810, Peringkat 3
Lebuhraya Persekutuan
Peti Surat 35
Shah Alam, Selangor

MAJOR STANDARDS MS 73:1972 Radio interference - measuring set
USED: for the frequency range 0.015 MHz to 1000
MHz.
MS 893:1983 Reception of sound and TV
broadcasting, code of practice.
D7:1976 to 1984 Glossary, Part 3: Terms
particular to telecommunications and
electronics terminology.
Group 01: General telecommunications and
electronics
Group 02: Telephony terminology
Group 03: Telegraphy including facsimile
Group 07: Radio-communications
terminology

.....

COUNTRY: Malaysia

ORGANIZATIONAL NAME Syarikat Telekom Malaysia
AND ACRONYM: (STM)

ADDRESS: Ibu Pejabat
Bukit Mahkamah, Jalan Raja Chulan
Kuala Lumpur 05-01

TELEPHONE NUMBER: 22 94 94

TELEX: 30268 gentel ma30268

TELECOM DATAFLOW Administration and Operations for Malaysian
FUNCTIONS AND Telecommunications system
ACTIVITIES:

COUNTRY: New Zealand

ORGANIZATIONAL NAME Communications Division, Department of Trade
AND ACRONYM: and Industry (DTI)

ADDRESS: PO Box 1473
Wellington
New Zealand

TELEPHONE NUMBER: (04) 742-999

TELEX: NZ31530

FAX: (04) 734-638

TELECOM DATAFLOW AUTHORITY: There is no organization that authorizes, regulates or oversees the flow of data, insofar as content is concerned.

LAW/STATUTE AND DATE OF AUTHORITY: Telecommunications Act, 1987

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: The Communications Division of the Department of Trade and Industry has responsibility for policy and regulatory oversight of the telecommunications sector (insofar as the transport medium rather than content/data is concerned.) The Department is responsible for the management and allocation of the radio spectrum. As a result of recently announced Government policy, the Department will also assume responsibility for broadcasting policy early in 1989, following the enactment of new broadcasting legislation.

AFFECTED INDUSTRIES Telecommunications and broadcasting PRODUCTS OR SERVICES:

DEVELOP/WRITE REGULATIONS OR STANDARDS: Regulations - yes. The preparation of standards is the responsibility of the Standards Association of New Zealand (SANZ)

MAJOR REGULATIONS USED: Telecommunications Regulations 1987

MAJOR STANDARDS USED: Major standards available for the activities recorded below.

LICENSING: Licensing of radio apparatus in accordance with regulations.

TESTING: Link Licensing for communication links.

INSPECTION: Testing of radio apparatus for conformity to specifications.

CERTIFICATION: Testing of electrical equipment for compliance with standards

REGISTRATION: Inspection of radio apparatus for compliance with regulations.

INTERNATIONAL ORGANIZATIONS: Certification of technical proposals for broadcast transmitting stations.

ASSISTANCE TO IMPORTER AND EXPORTERS: Certification that radio apparatus meets certain technical requirements.

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS: Registration of users of radio frequencies.

DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY: ITU, CCITT, CCIR

DIFFICULTIES NOTED BY U.S. FIRMS: None

Participation is open, but only at the discretion of New Zealand officials.

Regulations are developed in consultation with interested parties as appropriate.

These include representatives of the industry sectors concerned. Regulations are published and details freely available to users.

No complaints have been received.

Lease circuit sharing and resale are not permitted in all cases or are only permitted on a trade-restricted basis.

COUNTRY: New Zealand

ORGANIZATIONAL NAME Standards Association of New Zealand
AND ACRONYM: (SANZ)

ADDRESS: Sixth Floor, Wellington Trade Centre
181-187 Victoria Street
Private Bag
Wellington, New Zealand

TELEPHONE NUMBER: 04 842 108

TELEX: NZ 3850 (SANZ)

FAX: 04 843 938

PARENT
ORGANIZATION: Standards Council of New Zealand

LAW/STATUTE AND
DATE OF AUTHORITY: Standards Act 1988

DEVELOP/WRITE
REGULATIONS OR
STANDARDS: Electrotechnical standards: electrical safety
(adopted for regulatory purposes), and
specifications for electronics and
telecommunications areas as international
trade develops.

INSPECTION: As part of certification process.

CERTIFICATION: Full certification service to recognized
standards.

INTERNATIONAL
ORGANIZATIONS: ISO, IEC

REGIONAL
ORGANIZATIONS: Pacific Area Standards Congress

ASSISTANCE TO
IMPORTER AND
EXPORTERS: SANZ operates Technical Help for Exporters, a
specialist service providing coverage of
standards, regulations, and other procedures
in foreign markets.

PARTICIPATION IN
DEVELOPMENT
ACTIVITIES OPEN TO
FOREIGN FIRMS: Proposals open to comment from countries that
are signatories to the GATT Standards Code.

COUNTRY: Philippines

ORGANIZATIONAL NAME National Telecommunications Commission
AND ACRONYM: (NTC)

ADDRESS: David Gutierrez Rogue Building
Corner Panay Avenue-Scout Reyes Street
Quezon City, Metro Manila

TELEPHONE NUMBER: 98 11 60

TELEX: ETP 63912 ntc pn

CABLE: natelcom quezoncity

PARENT ORGANIZATION: Ministry of Transportation and Communications

TELECOM DATAFLOW AUTHORITY: Telecommunications policy and administration

AFFECTED INDUSTRIES Banking industry: recording and answering services, call restrictors and encryptors, and surge protection equipment. PABXs, Facsimile and Telex equipment. Satellite equipment

PRODUCTS OR SERVICES:

MAJOR REGULATIONS USED: Import restrictions and limited issuance of frequency licenses hamper U.S. manufacturers of mobile radios.

COUNTRY: Philippines

ORGANIZATIONAL NAME Philippine Long Distance Telephone Company
AND ACRONYM: (PLDT)

ADDRESS: Ramon Cojunagco Building
P.O. Box 952 MCC
Makati Avenue, Makati, Metro Manila

TELEPHONE NUMBER: 63-2-8168121

TELEX: 22195 PLD PH

CABLE: fones manila

FAX: 63-2-8151600

TELECOM DATAFLOW AUTHORITY: International, national toll, and local telephone operations.

LAW/STATUTE AND DATE OF AUTHORITY: Commonwealth Act 407 dated September 14, 1938
Republic Act 6246 dated November 9, 1970

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Provision of switching and transmission facilities for telephone service and leased lines for special services.

AFFECTED INDUSTRIES PRODUCTS OR SERVICES: Cellular Mobile Telephone
Voice, Data, and Facsimile Transmission

DEVELOP/WRITE REGULATIONS OR STANDARDS: Upon request of government, assists in the formulation of regulations. Prepares technical specifications for equipment acquisition. Prepares service standards for PLDT network.

MAJOR STANDARDS USED: CCITT recommendations, if applicable, Equipment technical specifications and Service standards.

INTERNATIONAL ORGANIZATIONS: ITU

REGIONAL ORGANIZATIONS: Asia Pacific Telecommunity (APT)
Pacific Telecommunications Council (PTC)
Asia ISDN Council (AIC)
Asian Posts and Telecommunications (POSTEL)

COUNTRY: Philippines

ORGANIZATIONAL NAME Product Standards Agency
AND ACRONYM: (PSA)

ADDRESS: Trade and Industry Building
361 Sen. Gil J. Puyat Avenue
Makati, Metro Manila

TELEPHONE NUMBER: 818 57 01

TELEX: 14380 MIS PS

PARENT
ORGANIZATION: Ministry of Trade and Industry

TELECOM DATAFLOW
FUNCTIONS AND
ACTIVITIES: National GATT Enquiry Point

DEVELOP/WRITE
REGULATIONS OR
STANDARDS: Philippine National Standards and Standards
Administrative Orders

MAJOR STANDARDS
USED: 20-1 Marking of Standardized Goods.
140 Standard Procedures of Sampling and
Inspection.
184-1 Thermoplastic Insulated Electric Wires
and Cables.
367 Resistivity of Electrical Conductor
Materials.
437 uPVC Telephone Conduit

COUNTRY: Philippines

ORGANIZATIONAL NAME Bureau of Telecommunications
AND ACRONYM: (BUTEL)

ADDRESS: Telecom Building
Don A. Roces Avenue
Quezon City, Metro Manila

TELEPHONE NUMBER: 97 35 59

TELEX: GMC 400060 butelco pm

PARENT ORGANIZATION: Ministry of Transportation and Communications

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: International telex and domestic telephone

DIFFICULTIES NOTED BY U.S. FIRMS: There may be some restrictions on purchases of a wide variety of telecom services to be used for intra-corporate purposes. These restrictions could prevent the ready establishment of fully integrated, multinational corporate information networks in a manner which the corporation deems most effective and cost efficient.

COUNTRY: Singapore

ORGANIZATIONAL NAME The Telecommunications Authority of Singapore
AND ACRONYM: (Telecoms)

ADDRESS: 31, Exeter Road
Comcentre
Singapore 0923

TELEPHONE NUMBER: 7343344

TELEX: RS33311

FAX: 7328428

PARENT ORGANIZATION: Ministry of Communications and Information

TELECOM DATAFLOW AUTHORITY: Telecoms has the exclusive privilege for the operation and provision of information communication and postal service in Singapore.

LAW/STATUTE AND DATE OF AUTHORITY: The Telecommunications Authority of Singapore Act, 1982.

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: To exercise licensing and regulatory functions concerning information communication and postal services in Singapore.

To provide, operate and maintain information communication and postal services.

To act internationally as the body representing Singapore with respect to matters relating to information, communication and postal services.

AFFECTED INDUSTRIES PRODUCTS OR SERVICES: Electronic mail services
Encryption equipment

DEVELOP/WRITE REGULATIONS OR STANDARDS: Regulations - yes
Standards - yes

MAJOR REGULATIONS USED:	The Radiocommunication Regulations, 1975.
MAJOR STANDARDS USED:	Telecommunication equipment connected to Singapore Public Switched Telephone and Data Network.
	Radiocommunication equipment operating in Singapore.
LICENSING:	Yes
TESTING:	Generally, application for testing of equipment takes approximately three months. The cost range from S\$50 - S\$500 depending on the types of equipment.
INSPECTION:	Yes
CERTIFICATION:	Yes
ACCREDITATION:	Yes
REGISTRATION:	Yes
INTERNATIONAL ORGANIZATIONS:	ITU, CCITT, CCIR
ASSISTANCE TO IMPORTER AND EXPORTERS:	No
PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS:	Yes
DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY:	Operation of service is not allowed between and among third parties; it is solely for company's own use.

COUNTRY: Singapore

ORGANIZATIONAL NAME Singapore Institute of Standards and Industry
AND ACRONYM: (SISIR)

ADDRESS: 1 Science Park Drive
Singapore 0511

TELEPHONE NUMBER: 7787777

TELEX: RS28499 SISIR

CABLE: SISIR

FAX: (65) 7780086

DEVELOP/WRITE REGULATIONS OR STANDARDS: Regulations - no
Standards - yes

MAJOR STANDARDS USED: Quality Systems, Singapore Standard 308
Electronic, electrical and mechanical standards

TESTING: Type testing

INSPECTION: Yes

CERTIFICATION: Certification Mark Scheme includes testimony of product conformance to specified standard through independent testing by SISIR.

ACCREDITATION: Yes

INTERNATIONAL ORGANIZATIONS: ISO, IEC

REGIONAL ORGANIZATIONS: PASC

ASSISTANCE TO IMPORTER AND EXPORTERS: Help local manufacturers meet overseas certification requirements (e.g., UL, CSA).

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS: Yes

DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY: SISIR is not aware of any complaints or difficulties.

COUNTRY: Taiwan

ORGANIZATIONAL NAME Directorate General of Telecommunications
AND ACRONYM: (DGT)

ADDRESS: 31 Ai Kuo East Road
P.O. Box 84
Taipei

TELEPHONE NUMBER: 344 36 01

TELEX: 21733 gentel

PARENT
ORGANIZATION: Ministry of Communications

TELECOM DATAFLOW
AUTHORITY: Administration and operations

LAW/STATUTE AND
DATE OF AUTHORITY: DGT is the monopoly provider of all telecom services. All equipment must be approved and purchased by DGT. For national security reasons, Taiwan imposes tight restrictions on transborder data flow, fearing that national secrets could fall into the wrong hands.

TELECOM DATAFLOW
FUNCTIONS AND
ACTIVITIES: All international messages are monitored by communication officials to ensure that messages that could breach national security do not leave the country. These officials are permitted to monitor data flows of multinational corporations and banks.

AFFECTED INDUSTRIES Videotext, teletex, mobile telephone, dial-up data communications services, and broadcasting equipment. Equipment for ISDN. Communications wire and cable.

DEVELOP/WRITE REGULATIONS OR STANDARDS: Yes

MAJOR REGULATIONS USED: Modems require prior approval by the DGT before installation.

FAX machines are classified as restricted telecom equipment; to be a qualified fax importer, a firm must be a grade-A licensed company and have a specially approved business permit.

TESTING: Import firms must make machine samples available for approval by the DGT.

REGISTRATION: All imported telecom items must be registered with the Executive agent.

DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY: TELECOM DATAFLOW is restricted by the high cost of international telex and telephone calls and the fact that international subscriber dialing is not available from all parts of the island.

DETAILS OR COMMENTS: The Telecommunications Modernization Plan (1985-1990) will change the telecom network from analog to digital, introduce advanced systems for new services, and set the stage for Integrated Services Digital Network.

DIFFICULTIES NOTED BY U.S. FIRMS: Public enterprises and agencies must purchase locally if product is available within five percent higher of imports (including tariffs). Available information on standards setting and attachment policies has been sketchy.

COUNTRY: Taiwan

ORGANIZATIONAL NAME National Bureau of Standards
AND ACRONYM: (NBS)

ADDRESS: 4th fl., 102
Kwang-Fu South Road
10553 Taipei, Taiwan Republic of China

TELEPHONE NUMBER: 011-886-2-7725321

TELEX: 15074 NBSMOEA

FAX: (02) 7215255

PARENT ORGANIZATION: Ministry of Economic Affairs

TELECOM DATAFLOW FUNCTIONS AND ACTIVITIES: Computers and computer networks; patents and trademarks

DEVELOP/WRITE REGULATIONS OR STANDARDS: Regulations -- No
Standards -- Yes

MAJOR STANDARDS USED: C5146-1983 Synchronous High-speed Data Signalling Rates between Data Terminal Equipment and Data Communications Equipment.

C5160-1983 Information Interchange -- The Bit Sequencing for Serial-by-Bit Data Transmission.

C5161-1983 Information Interchange -- Character Structure and Character Parity Sense for Serial-by-bit (C5162 for Parallel) Data Communications.

C5177 to 5183-1983 Interface between Data Terminal Equipment and Data Communication Equipment Employing Serial Binary Data Interchange.

PARTICIPATION IN DEVELOPMENT
ACTIVITIES OPEN TO FOREIGN FIRMS: No

COUNTRY: Thailand

ORGANIZATIONAL NAME Thai Industrial Standards Institute
AND ACRONYM: (TISI)

ADDRESS: Thai Industrial Standards Institute
Ministry of Industry
Rama VI Street
Bangkok 4, Thailand

TELEPHONE NUMBER: 281 79 97 -9

PARENT
ORGANIZATION: Ministry of Industry

MAJOR STANDARDS
USED: 10-1970 Low-voltage distribution link fuses.
216-1977 Rigid PVC conduit for electrical
wiring and telephone cable.

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COUNTRY: Thailand

ORGANIZATIONAL NAME Posts and Telegraph Department, Ministry of
AND ACRONYM: Communications (PTD)

ADDRESS: 87 Soi Sailom, Phaholyothin Road
Bangkok 10400

TELEPHONE NUMBER: 279 10 09

TELEX: 82503 postel th

LAW/STATUTE AND
DATE OF AUTHORITY: Copyright Act of 1978

DIFFICULTIES NOTED
BY U.S. FIRMS: Import duties of 20 percent disadvantages
foreign computer service providers.

Computer software is not explicitly covered
by the Thai Copyright Act of 1978. Even if
covered, enforcement of the Act's provisions
is irregular and weak.

COUNTRY: Thailand

ORGANIZATIONAL NAME Telephone Organization of Thailand
AND ACRONYM: (TOT)

ADDRESS: 977 Thanon Phloenchit Road
Pathumwan
Bangkok 10500, Thailand

TELEPHONE NUMBER: 257 10 10

TELEX: 82886 telthai th

TELECOM DATAFLOW
FUNCTIONS AND
ACTIVITIES: Shares duopoly with CAT over all
telecommunications services including
domestic telephone.

.....

COUNTRY: Thailand

ORGANIZATIONAL NAME Communications Authority of Thailand
AND ACRONYM: (CAT)

ADDRESS: 1160 Charoenkrung Road
Bangkok 10501, Thailand

TELEPHONE NUMBER: 234 32 60

TELEX: 2241 adm cat th

TELECOM DATAFLOW
FUNCTIONS AND
ACTIVITIES: Shares duopoly with TOT over all
telecommunications services.

INDEX BY AGENCY

Australian Postal Commission.....	(Australia Post)
Australian Telecommunications Commission.....	(Telecom Australia)
Bureau of Telecommunications.....	(BUTEL)
Cable and Wireless (HK) Ltd.....	(CWHK)
Communications Authority of Thailand.....	(CAT)
Communications Division, Department of Trade and Industry...	(DTI)
Directorate General of Telecommunications.....	(DGT)
Hong Kong Post Office.....	(HKPO)
Hong Kong Standards and Testing Center.....	(STC)
Hong Kong Telephone Co.....	(HKTC)
Kepala Direktorat Telekomunikasi.....	(KDT)
Korean Bureau of Standards.....	(KBS)
Korean Telecommunications Authority.....	(KTA)
National Bureau of Standards.....	(NBS)
National Telecommunications Commission.....	(NTC)
Overseas Telecommunications Commission.....	(OTC)
Perusanaan Umum Telekomunikasi.....	(Perumtel)
Philippine Long Distance Telephone Company.....	(PLDT)
Posts and Telegraph Department, Ministry of Communications..	(PTD)
Product Standards Agency.....	(PSA)
PT (Persero) INDOSAT.....	(INDOSAT)
Singapore Institute of Standards and Industry.....	(SISIR)
Standardization Council of Indonesia.....	(DSN)
Standards and Industrial Institute of Malaysia.....	(SIIM)
Standards Association of New Zealand.....	(SANZ)
Standards Australia.....	(SAA)
Syarikat Telekom Malaysia.....	(STM)
Telecommunications Authority of Singapore.....	(Telecoms)
Telecommunications Policy Bureau.....	(TPB)
Telephone Organization of Thailand.....	(TOT)
Thai Industrial Standards Institute.....	(TISI)

INDEX BY ACRONYM

(Australia Post)	Australian Postal Commission
(BUTEL)	Bureau of Telecommunications
(CAT)	Communications Authority of Thailand
(CWHK)	Cable and Wireless (HK) Ltd
(DGT)	Direktorate General of Telecommunications
(DSN)	Standardization Council of Indonesia
(DTI)	Communications Division, Department of Trade and Industry
(HKPO)	Hong Kong Post Office
(HKTC)	Hong Kong Telephone Co
(INDOSAT)	PT (Persero) INDOSAT
(KBS)	Korean Bureau of Standards
(KDT)	Kepala Direktorat Telekomunikasi
(KTA)	Korean Telecommunications Authority
(NBS)	National Bureau of Standards
(NTC)	National Telecommunications Commission
(OTC)	Overseas Telecommunications Commission
(Perumtel)	Perusanaan Umum Telekomunikasi
(PLDT)	Philippine Long Distance Telephone Company
(PSA)	Product Standards Agency
(PTD)	Posts and Telegraph Department, Ministry of Communications
(SAA)	Standards Australia
(SANZ)	Standards Association of New Zealand
(SIIM)	Standards and Industrial Institute of Malaysia
(SISIR)	Singapore Institute of Standards and Industry
(STC)	Hong Kong Standards and Testing Center
(STM)	Syarikat Telekom Malaysia
(Telecom Australia)	Australian Telecommunications Commission
(Telecoms)	Telecommunications Authority of Singapore
(TISI)	Thai Industrial Standards Institute
(TOT)	Telephone Organization of Thailand
(TPB)	Telecommunications Policy Bureau

APPENDIX I

Country Survey Sheets.

COUNTRY: XX

ORGANIZATIONAL NAME XX
AND ACRONYM:

ADDRESS: XX

TELEPHONE NUMBER: XX

TELEX: XX

CABLE: XX

FAX: XX

PARENT
ORGANIZATION: XX

TELECOM DATAFLOW XX
AUTHORITY:

LAW/STATUTE AND XX
DATE OF AUTHORITY:

TELECOM DATAFLOW XX
FUNCTIONS AND
ACTIVITIES:

AFFECTED INDUSTRIES XX
PRODUCTS OR
SERVICES:

DEVELOP/WRITE XX
REGULATIONS OR
STANDARDS:

MAJOR REGULATIONS XX
USED:

MAJOR STANDARDS XX
USED:

LICENSING: XX

TESTING: XX

INSPECTION: XX

CERTIFICATION: XX

ACCREDITATION: XX

REGISTRATION: XX

INTERNATIONAL ORGANIZATIONS: XX

REGIONAL ORGANIZATIONS: XX

ASSISTANCE TO IMPORTER AND EXPORTERS: XX

PARTICIPATION IN DEVELOPMENT ACTIVITIES OPEN TO FOREIGN FIRMS: XX

DIFFICULTIES IN MOVING DATA INTO, OUT OF, OR WITHIN COUNTRY: XX

DETAILS OR COMMENTS: XX

DIFFICULTIES NOTED BY U.S. FIRMS: XX

APPENDIX II

Other NIST Documents of Possible Interest:

- o The ABC's of Standards-Related Activities in the United States (NBSIR 87-3576)

This report provides an introduction to voluntary standardization, product certification and laboratory accreditation for a reader who is not fully familiar with these topics. It highlights some of the more important aspects of these fields; furnishes the reader with both historical and current information on these topics; describes the importance and impact of the development and use of standards; and serves as background for using available documents and services.

Order as PB 87-224309 from NTIS.

- o The ABC'S of Certification Activities in the United States (NBSIR 88-3821)

This report, a sequel to NBSIR 87-3576, The ABC'S of Standards-Related Activities in the United States, provides a further introduction to certification for a reader who is not entirely familiar with this topic. It highlights some of the more important aspects of this field, furnishes the reader with information necessary to make informed purchases, and serves as background for using available documents and services.

Order as PB 88-239793 from NTIS.

- o Functions of the NBS Associate Director for Industry and Standards (NBSIR 87-3623)

This report describes the standardization and metrological activities of the office of the Associate Director for Industry and Standards (ADIS) and its five coordinated programs: the Office of Standards Code and Information, the Office of Standards Management, the Office of Weights and Measures, the Office of Research and Technology Applications and the National Voluntary Laboratory Accreditation Program.

Available upon request from the OSCI office.

- o Directory of International and Regional Organizations Conducting Standards-Related Activities (NBS SP 649)

This directory contains information on 272 international and regional organizations which conduct standardization, certification, laboratory accreditation, or other standards-related activities. It describes their work in these areas, as well as the scope of each organization, national affiliations of members, U.S. participants, restrictions on membership, and the availability of any standards in English.

Order as PB 84-203439 from NTIS.

o Standards Activities of Organizations in the United States (NBS SP 681)

The directory summarizes the standardization activities of more than 750 organizations in the United States, including federal and state agencies and approximately 420 private sector groups that develop standards. It also contains listings of state procurement offices, sources of standards documents and information, a subject index and related listings that cover acronyms and initials, defunct bodies and organizations with name changes.

Order as PB 85-106151 from NTIS. Copies may also be purchased from Global Engineering Documents, 2805 McGaw Ave., P.O. Box 19539, Irvine, CA 92714; (714) 261-1455.

o Private Sector Product Certification Programs in the United States (NBS SP 703)

This directory presents information from 109 private sector organizations in the United States which engage in product certification activities. Entries describe the type and purpose of each organization, the nature of the activity, product certified, standards used, certification requirements, availability and cost of services, and other relevant details.

Order as PB 86-110913 from NTIS.

o Directory of Federal Government Certification Programs (NBS SP 739)

This directory presents information on U.S. Government certification programs for products and services. Entries describe the scope and nature of each certification program, testing and inspection practices, standards used, methods of identification and enforcement, reciprocal recognition or acceptance of certification, and other relevant details.

Order as SN 003-003-02852-5 from GPO.

o Barriers Encountered by U.S. Exporters of Telecommunications Equipment (NBSIR 87-3641)

This report addresses the perceived institution of unreasonable technical trade barriers by major European trading partners to the export of telecom products and systems by U.S. companies. The GATT technical office, which has responsibilities to assist U.S. exporters to take advantage of trade opportunities, informally contacted over a period of six months, telecom companies and agencies to assess the extent of unreasonableness in foreign national standards, regulations, testing and certification requirements, and accreditation procedures.

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o A Review of U.S. Participation in International Standards Activities (NBSIR 88-3698)

This report describes the role of international standards,

their increasingly significant importance in world trade, and the extent of past and current U.S. participation in the two major international standardization bodies - ISO and IEC. The degree of U.S. participation covers the 20 year period 1966-1986. A coarse analysis of data indicates some correlation between U.S. participation and recent export performance for several major product categories.

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o A Summary of the New European Community Approach to Standards Development (NBSIR 88-3793-1)

This paper summarizes European Community (EC) plans to aggressively pursue its goal of achieving an "internal market" by 1992 and the standards-related implications of such a program on U.S. exporters.

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o KWIC Index (Computer Output Microform (COM) produced)

The KWIC Index contains the titles of more than 28,000 U.S. voluntary product and engineering standards. A standard can be located by means of any significant or key word in the title. Key words are arranged alphabetically. A standard with five key words, for example, would therefore be listed in five different places. To purchase microfiche copies of the latest revision of the Index, contact the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; (703) 487-4600. Use order no. PB 88-145560, cost \$14.50.

The following documents are available upon request from the OSCI office.

o tbt news

This newsletter provides information on government programs and available services established in support of the GATT Agreement on Technical Barriers to Trade (Standards Code). tbt news reports on the latest notifications of proposed foreign regulations; bilateral consultations with major U.S. trade partners; programs of interest to U.S. exporters; and availability of standards and certification information. Subscription is free upon request.

o Technical Barriers to Trade

This booklet explains the basic rules of the international Agreement on Technical Barriers to Trade negotiated during the Tokyo Round of the Multilateral Trade Negotiations (MTN), and describes Title IV of the U.S. Trade Agreements Act of 1979 which implements the United States' obligations under the Agreement. The Agreement, popularly known as the Standards Code, was designed to eliminate the use of standards and certification

systems as barriers to trade. The booklet describes the functions of the Departments of Commerce and Agriculture, the Office of the U.S. Trade Representative, and the State Department in carrying out the U.S.'s responsibilities.

o "GATT Standards Code Activities"

This brochure gives a brief description of NBS' activities in support of the Standards Code. These activities include operating the U.S. GATT inquiry point for information on standards and certification systems; notifying the GATT Secretariat of proposed U.S. regulations; assisting U.S. industry with trade-related standards problems; responding to inquiries on foreign and U.S. proposed regulations; and preparing reports on the Standard Code.

o GATT Standards Code Activities of the National Bureau of Standards

This annual report describes the GATT Standards Code activities conducted by the Office of Standards Code and Information for each calendar year. NBS responsibilities include operating the GATT inquiry point, notifying the GATT Secretariat of proposed U.S. Federal government regulations which may affect trade, assisting U.S. industry with standards-related trade problems, and responding to inquiries about proposed foreign and U.S. regulations.

o Report to the United States Congress on the Agreement on Technical Barriers to Trade - "Standards Code"

This triennial report describes the programs and activities established to implement the Standards Code in the United States by the four responsible U.S. government agencies: Office of the U.S. Trade Representative; Department of Commerce (National Bureau of Standards, International Trade Administration); Department of Agriculture and Department of State.

o Free handout material on ADIS, NCSCI and GATT activities, and standards-related information such as: government sources of specifications and standards; use of the KWIC index; foreign standards bodies; U.S. standards organizations; and a fact sheet on the National Center for Standards and Certification Information (NCSCI).

In addition to general inquiry services, the following assistance is also available:

- o GATT Hotline

A telephone hotline provides current information received from the GATT Secretariat in Geneva, Switzerland, on proposed foreign regulations which may significantly affect trade. The recorded message is updated weekly and gives the product, country, closing date for comments (if any) and Technical Barriers to Trade (TBT) notification number. The hotline number is (301) 975-4041 (not toll-free).

- o NCSCI provides assistance to U.S. and foreign exporters in obtaining current standards, regulations and certification information for the manufacture of products. To aid foreign exporters, NCSCI also provides directory information of state offices prepared to respond to queries concerning conditions to be met by goods for sale in their state.

Publication Ordering Information

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U.S. DEPT. OF COMM. BIBLIOGRAPHIC DATA SHEET (See instructions)		1. PUBLICATION OR REPORT NO. NISTIR 88-4015	2. Performing Organ. Report No.	3. Publication Date DECEMBER 1988
4. TITLE AND SUBTITLE Directory of Organizations and Standards that Affect the Movement of Telecommunications Information for Ten Pacific Rim Countries				
5. AUTHOR(S) Terrance N. Troy				
6. PERFORMING ORGANIZATION (If joint or other than NBS, see instructions) NATIONAL BUREAU OF STANDARDS U.S. DEPARTMENT OF COMMERCE GAIITHERSBURG, MD 20899			7. Contract/Grant No.	8. Type of Report & Period Covered
9. SPONSORING ORGANIZATION NAME AND COMPLETE ADDRESS (Street, City, State, ZIP)				
10. SUPPLEMENTARY NOTES				
<input type="checkbox"/> Document describes a computer program; SF-185, FIPS Software Summary, is attached.				
11. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)				
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12. KEY WORDS (Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons) computers; GATT; market access; Pacific Rim; regulations; standards; telecommunications data; trade barriers; transborder data flow				
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